

**Request to Archive
With The National Centers for Environmental Information
For COSMIC-2 Data
Provided by UCAR COSMIC**

2016-07-12

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

1. Who is the primary point of contact for this request?

Kate McGinnis

NOAA/NESDIS/OPPA/PMED

COSMIC Program

301-713-7318

kate.mcginis@noaa.gov

Alternate contact: Mike Simpson / michael.simpson@noaa.gov / 301.713.4819

2. Name the organization or group responsible for creating the dataset.

UCAR COSMIC

3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.

The system shall archive at a NOAA data center the COSMIC-2 Global Navigation Satellite System (GNSS) Radio Occultation (RO) raw and processed data and associated metadata for long-term storage and retrieval following the respective management standards.

4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)

From 2017-01-02

Ongoing as continuous updates to the data record

5. Edition or version number(s) of the dataset:

N/A

6. Approximate date when the dataset was or will be released to the public:

2017-01-02

7. Who are the expected users of the archived data? How will the archived data be used?

The operational and research needs within NOAA have been documented previously in NOAA's GNSSRO Follow-on Business Case, in the U.S. by the National Research Council's Decadal Survey, and internationally by the Coordinating Group for Meteorological Satellites and the World Meteorological Organization. In brief, environmental observations from the current COSMIC system are used operationally by NOAA and over 1200 users in 54 countries because of the unique benefits provided by these data compared to conventional satellite sensors. Since 2007, NCEP has been using the near-real-time data operationally for their numerical weather prediction models. Observational continuity beyond the expected end-of-life of the satellite system in 2011 is required to maintain the improved forecast model performance levels that have been achieved and documented in journal publications, to extend the climate observation dataset from COSMIC, and to enable new and enhanced space weather analysis and forecasting

applications. The Business Case describes the impact of GNSSRO data observations on NCEP's forecast skill, including a documented increase in model forecast skill of about 8 hours in the Day 4 forecast and over 15 hours improvement at Day 7. Operational forecast model skill will degrade by this same margin if these data are not available.

8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?

Working with Nancy Ritchey, Jason Cooper, and Jeff Arnfield on the COSMIC-2 data archive requirements.

9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?

N/A

10. List the input datasets and ancillary information used to produce the data.

See provided COSMIC-2 data archive requirements spreadsheet.

11. List web pages and other links that provide information on the data.

TBD - will be coordinated with NCEI staff.

12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.

1. See provided COSMIC-2 data archive requirements spreadsheet.

13. Indicate the data file format(s).

1. BUFR
2. CCSDS
3. netCDF
4. ASCII
5. IERS
6. NGS SP3

14. Are the data files compressed?

See provided spreadsheet.

15. Provide details on how the files are named and how they are organized (e.g., file_name_pattern_YYYYMM.tar in monthly aggregations).

See provided COSMIC-2 data archive requirements spreadsheet.

16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?

TBD - to be coordinated with NESDIS/COSMIC and UCAR.

17. What is the total data volume to be submitted?

Continuous Data: data volume rate for a continuous data production.

Total Data Volume Rate: 42GB per Week

Data File Frequency: 1 per Week

Data Production Start: 2017-01-02

18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.

Reference:

Cost Estimate for Tier 1 Archival Stewardship of specific
COSMIC-2 L0, L1B and L2 Products
v. 2016-06-13

19. Describe the server that will connect to the ingest server at NCEI for submitting the data.

Physical Location: Boulder, CO

System Name: USDPC

System Owner: UCAR/COSMIC/CDAAC > COSMIC Data Analysis and Archive
Center, Constellation Observing System for Meteorology,
Ionosphere and Climate, University Corporation for Atmospheric
Research

Additional Information: TBD

20. What are the possible methods for submitting the data to NCEI? Select all that apply.

TBD

21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.

22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?

Constraint Type	Description
Other	TBD

23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.

FISMA complaint system required for NOAA COSMIC-2 National Critical Data long-term storage.

24. Are the data archived at another facility or are there plans to do so? Please explain.

Yes, UCAR will archive COSMIC-2 data for users as they have archived COSMIC-1 legacy system data.

25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?

Working with Nancy Ritchey, Jason Cooper, and Jeff Arnfield on the COSMIC-2 data archive requirements -- see NCEI rough estimate for COSMIC-2 data archiving.

26. Do you have a data management plan for your data?

Reference the UCAR COSMIC Data Management Plan

27. Have funds been allocated to archive the data at NCEI?

Fund will be provided out of the NOAA/NESDIS/OPPA COSMIC Program funding.

28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.

UCAR/COSMIC Program

29. Is there a desired deadline for NCEI to archive and provide access to the data?

Archive by: 2017-01-02

Accessible by: 2017-01-02

30. Add any other pertinent information for this request.

Yes - COSMIC-2 data archive requirements spreadsheet has been provided to NCEI staff.

And reference:

Cost Estimate for Tier 1 Archival Stewardship of specific

COSMIC-2 L0, L1B and L2 Products

v. 2016-06-13